$\vec{v}_1, \vec{v}_2, ... \vec{v}_k$  is linearly independent if

The span of  $\vec{v}_1, \vec{v}_2, ... \vec{v}_k$  is

 $\vec{v}$  is a linear combination of  $\vec{v}_1, \vec{v}_2, ... \vec{v}_k$  if

 $\vec{v}_1, \vec{v}_2, ... \vec{v}_k$  span  $\mathbb{R}^n$  if

If a matrix  $A_{m \times n}$  has full row pivots

If a matrix  $A_{m \times n}$  has full column pivots

line vector  $\vec{v}$  is on

determinant of  $3\times 3$  via Laplace expansion

subspace

basis for a subspace

column space of A

null space of  ${\cal A}$ 

eigenvalue

eigenvector

eigenvector decomposition